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10/662,683	09/15/2003	Melvin E. Wolfe JR.	28076/SV1094	9788
4743 7590 10/31/2011 MARSHALL, GERSTEIN & BORUN LLP 233 SOUTH WACKER DRIVE 6300 WILLIS TOWER CHICAGO, IL 60606-6357				
EXAMINER PHAN, THIEM D				
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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MELVIN E. WOLFE JR., MARK E. BAER and  
ALAN R. AYOTTE

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Appeal 2009-012752  
Application 10/662,683  
Technology Center 3700

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Before WILLIAM F. PATE III, JOHN C. KERINS and  
STEVEN D.A. McCARTHY, *Administrative Patent Judges*.

McCARTHY, *Administrative Patent Judge*.

DECISION ON APPEAL

1           The Appellants appeal under 35 U.S.C. § 134 from the Examiner's  
2   final decision rejecting claims 11-19. The Examiner rejects claims 11-13  
3   and 16-18 under 35 U.S.C. § 103(a) as being unpatentable over Sunaga (US  
4   6,737,770 B2, issued May 18, 2004) and Matsuoka (US 5,880,666, issued  
5   Mar. 9, 1999); and claims 14, 15 and 19 under § 103(a) as being  
6   unpatentable over Sunaga, Matsuoka and Lewchenko (US 6,058, 595, issued

May 9, 2000). We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

Claim 11 is the sole independent claim on appeal:

11. A method of making an electric motor, comprising:

winding a first magnet wire about a first lug in a winding board and a first protrusion in a stator, the winding board being disposed on the stator and including a switch having at least an internal terminal, and a fuse having an input terminal and an exit terminal;

laying the first magnet wire across the exit terminal and the input terminal on the fuse;

connecting an end portion of the first magnet wire directly to the switch; and

severing the first magnet wire between the input terminal and the exit terminal on the fuse.

Matsuoka describes a fuse 15 including a fuse body 1 received in a housing 2. The fuse body 1 including a pair of press-connecting terminals 4, 5 and a narrow melting portion 10 formed between the terminals 4, 5. (Matsuoka, col. 3, ll. 31-38). Matsuoka teaches connecting the fuse 15 by laying a wire 16 across the terminals 4, 5 of the fuse 15 (Matsuoka, col. 4, ll. 5-12 and fig. 3); severing the wire 16 between the terminals 4, 5 on the fuse 15 (*id.*, col. 4, ll. 20-26 and fig. 4); and closing a lid 3 of the housing 2 to position a projection 13 on an inner surface 12 of the lid 3 between the severed ends 17, 18 of the wire 16 (*id.*, col. 4, ll. 35-39 and fig. 5). Matsuoka does not describe an electric motor. Neither does Matsuoka specifically describe a method for making an electric motor.

Sunaga describes a wire-wound-type brushless electric motor *1* including a stator *2* and a rotor *3* rotatably supported by the stator *2*. The stator *2* includes a housing *4* installed on a circuit protection case *20*. (Sunaga, col. 3, ll. 7-16 and fig. 1). The circuit protection case *20* contains a drive control circuit *30*. (Sunaga, col. 3, ll. 59-61). The drive control circuit *30* includes a first circuit section *31* for eliminating surges of the supply electric power and a second circuit section *32*. The first circuit section *31* is designed to eliminate surges of the electric power supply. (Sunaga, col. 3, ll. 61-66). The second circuit section *32* includes switching devices *41* for switching the direction of the drive current supplied to the exciting coils *7* of the stator *2*. (Sunaga, col. 4, ll. 25-30). The first circuit section *31* is mounted in an inner case *33*. (Sunaga, col. 3, l. 66 – col. 4, l. 4). The second circuit section *32* is mounted on a printed circuit board *40* located between the inner case *33* and the stator *2*. (Sunaga, col. 4, l. 19-23).

Sunaga's motor *1* also includes a fuse member *60* made from an elastic, electrically-conductive material. (Sunaga, col. 5, l. 67 – col. 6, l. 2). Sunaga teaches connecting one end of the fuse member *60* to the printed circuit board *40* which mounts the switching devices *41*. Sunaga teaches securing the other end of the fuse member *60* to the first circuit section *31*. (Sunaga, col. 5, l. 67 – col. 6, l. 8 and fig. 7A).

The Examiner concludes that it would have been obvious to modify Sunaga's method by "applying the simple process of making a fuse, as taught by Matsuoka et al., in order to easily mount a fuse to an existing circuit and speed up the fuse making process." (Ans. 4). In the "Response to Argument," the Examiner elaborates on the proposed modification:

[W]hen the technician needs extra protection for the winding coils (Fig. 1, item 7) and new switch (45) [*sic*, 41] which are interconnected through the printed circuit board or PCB (40) and terminal (48), the technician just needs to mount a small fuse on the printed circuit board (40) near the terminal (48), disconnects the excess magnetic wire of the winding coil (7) that is connected to the terminal and reconnects the magnetic wire directly across the fuse to a PCB solder spot then severing the wire across the fuse.

(Ans. 7).

The Appellants correctly contends that the Examiner has not articulated a persuasive reason why one of ordinary skill in the art might have combined the teachings of Sunaga and Matsuoka in the fashion claimed in claim 11. (*See* Reply Br. 4). In order to implement the modification proposed by the Examiner, one of ordinary skill would have had to substitute the fuse 15 described by Matsuoka for the fuse member 60 described by Sunaga. In addition, one of ordinary skill in the art would have had to move the fuse from a position intermediate the first and second circuit sections 31, 32; find room on the printed circuit board 40 for the fuse; and change the manner in which the magnet wire of Sunaga's exciting coils 7 were coupled to the second circuit section 32 mounted on the printed circuit board 40. In doing so, one of ordinary skill in the art would have risked sacrificing desirable features of Sunaga's fuse member 60, such as the capacity of Sunaga's fuse member to radiate excess heat. (*See* Reply Br. 3, citing Matsuoka, col. 7, ll. 11-15).

The reasoning articulated by the Examiner does not persuasively explain why the modifications to Sunaga's motor 1 proposed by the Examiner would have been obvious, even after taking account of "the

inferences and creative steps that a person of ordinary skill in the art would employ.” See *KSR Int’l Co. v. Teleflex, Inc.* 550 U.S. 398, 418 (2007). This is particularly true in light of the nature of the electric motor 1 described by Sunaga and the nature of the fuse 15 described by Matsuoka. We do not sustain the rejection of claims 11-13 and 16-18 under § 103(a) as being unpatentable over Sunaga and Matsuoka.

Lewchenko describes a method for winding an armature. (*E.g.*, Lewchenko, col. 4, ll. 31-34). The Examiner cites Lewchenko as teaching the use of hooks or tangs to facilitate connections of the magnet wires. (*See* Ans. 6). Lewchenko does not remedy the deficiencies in the combined teachings of Sunaga and Matsuoka. We do not sustain the rejection of claims 14, 15 and 19 under § 103(a) as being unpatentable over Sunaga, Matsuoka and Lewchenko.

#### DECISION

We REVERSE the Examiner’s decision rejecting claims 11-19.

#### REVERSED

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